

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-028086**Date Inspected:** 01-Aug-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** As noted below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** SAS OBG**Summary of Items Observed:**

Quality Assurance Inspector (QA) Douglas Frey was at the American Bridge/Fluor (ABF) job site at Yerba Buena Island in California between the times noted above in order to monitor Quality Control functions and the in process work being performed by ABF personnel. The following items were observed:

12E/13E-B1 (Interior)

This QA Inspector randomly observed ABF/JV qualified welder Jim Quan Huang #9340 continuing to perform 3G vertical position production welding using the Shielded Metal Arc Welding (SMAW) process at 12E/13E-B1 on the interior of the OBG. This QA Inspector observed ABF personnel using propylene gas torch to preheat the joint being welded prior welding. This QA Inspector observed QC Inspector Salvador Merino use a infra- red temperature gauge to verify the preheat temperature of more than 150°F. This QA Inspector performed a verification of the welding parameters and observed 132 amperes of the 3.2mm E7018-H4R electrodes. The welding appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D1.5-1040A-Revision 1. This QA Inspector made subsequent observations throughout the shift to monitor quality and noted the work at this location is in progress and appeared to be in general conformance with the contract specifications.

12E/13E-LS8-DSF (Interior)

This QA Inspector made random observations of the in process production welding of the Deck Stiffener Flanges (DSF) for the longitudinal Stiffener (LS) at 13E/14E-LS8-DSF on the interior of the OBG. This QA Inspector observed QC Inspector Salvador Merino use a Fluke meter infra- red temperature gauge to verify the preheat

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temperature. This QA Inspector randomly observed ABF/JV qualified welder Wai Kit Lai #2953 perform the SMAW process in the 4G overhead position on the Partial Joint Penetration (PJP) TC-P4 joint of the DSF to LS-8. The welder was observed using E9018-H4R electrodes which this QA Inspector verified were obtained from a new container. The QC Inspector was observed monitoring the welding and the parameters as they pertain to ABF-WPS-D1.5-1162-4. On subsequent observations by this QA Inspector it was noted that between passes the work was cleaned as QC measured the inter-pass temperatures. The work progress throughout the remainder of the shift and this QA Inspector noted that the work was completed on this date. This QA Inspector's report dated 7/31/2012 for this location referenced WPS-1162-4 was not approved by the Engineer. As of this date the WPS has been approved.

12E-E2.1 (Interior)

This QA Inspector randomly observed ABF/JV qualified welder Xiao Jian Wan #9677 continuing to perform in process production welding using the Flux Core Arc Welding (FCAW) process in the 4G overhead position on the A deck joint at 12E-E2.1 on the interior of the OBG. The splice joint was preheated to greater than 200 degrees Fahrenheit using Miller Proheat 35 Induction Heating System with the heater blanket located at the opposite side of the deck prior/during welding. This QA Inspector observed QC Inspector Salvador Merino verify prior to the start of welding operations, that the minimum preheat temperature as per the approved WPS was established; and afterwards verified that the welding parameters (Amps, Volts and Travel Speed) were in accordance with ABF-WPS-D1.5-1-3110-4. This QA Inspector made subsequent observations throughout the shift to monitor quality and noted the work at this location is in progress and appeared to be in general conformance with the contract specifications.

12E-E2.1-C1.1 (Exterior)

This QA Inspector at random intervals made observations of ABF/JV qualified welder Chau Tran #3139 continuing to perform 4G overhead position production welding using the SMAW process on the side plate seam weld at 12E-E2.1-C1.1 on the exterior of the OBG. This QA Inspector observed ABF personnel using propylene gas torch to preheat the plates being welded prior welding. This QA Inspector observed QC Inspector Salvador Merino using an infra- red temperature gauge to verify the preheat temperature of more than 150°F. This QA Inspector performed a verification of the welding parameters and observed 127 amperes on the 3.2mm diameter E7018-H4R electrodes. The welding appeared to comply with Welding Procedure Specification ABF-WPS-D1.5-1040C-CU. At the end of the shift, SMAW fillet welding was still continuing and should remain tomorrow.

QC UT 13E Drop-In Panel (Exterior)

This QA Inspector randomly observed QC Inspector Jesse Cayabyab at 13E-E2.1, John Pagliero at 13E-E2.5 and Andrew Keech at 13E-PP122.2 performing Ultrasonic Testing (UT) on the exterior of the OBG. The QC Inspectors were observed scanning from each side of the weld and the scanning pattern as described in D1.5 6.24. The QC Inspectors were noted as identifying rejectable indications and the work at these locations is ongoing and appeared to be in general conformance with the contract documents and SE-UT-D1.5-CT-100-Revision 4.

13E PP122.7-E3 Temporary Attachment site (Interior)

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This QA Inspector randomly observed QC Inspector Salvador Merino perform Magnetic Particle Testing (MT) on the surface of the lifting lug removal sites located at 13E PP121.7-E3, 13E PP122.7-E3 and 13E PP122.8-E3 on the interior of the OBG. Upon completion of the testing, it was noted that QC found no rejectable indications. This QA Inspector performed MT testing on the sites listed above. This QA Inspector performed MT testing utilizing the yoke method in conformance with ASTM E 709 and the standard of acceptance with D1.5 section 6.26. This QA Inspector noted that no rejectable indications were found at the time of testing. This QA Inspector generated a TL-6028 MT report on this date. The completed work at this location appeared to be in general conformance with the contract specifications. This QA Inspector randomly observed ABF/JV qualified welder Wai Kit Lai #2953 perform the SMAW process on Rib Stiffener B (RSB) at 13E PP122.7-E3 on the interior of the OBG. This QA Inspector observed ABF personnel using propylene gas torch to preheat the joint being welded prior welding. This QA Inspector observed QC Inspector Salvador Merino use a infra- red temperature gauge to verify the preheat temperature of more than 150°F. This QA Inspector performed a verification of the welding parameters and observed 131 amperes of the 3.2mm E7018-H4R electrodes. The welding appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D1.5-F1200A for the fillet welds and ABF-WPS-D1.5-1030 for the double bevel Complete Joint penetration (CJP) weld. This QA Inspector made subsequent observations throughout the shift to monitor quality and noted the work at this location is in progress. A TL-15 was submitted on 7/30/2012 for this location and the Engineers response is pending. RFI no.: ABF-RFI-001151R01 was referenced during the observations.

Summary of Conversations:

Discussed issues concerning the bridge with Quality Assurance Task Leader Bill Levell.



Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy 510-385-5910 , who represents the Office of Structural Materials for your project.

Inspected By: Frey,Doug

Quality Assurance Inspector

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Reviewed By: Levell,Bill

QA Reviewer